

Application No. 09/668,866
Page 11

Amendment

MARKED UP CHANGES TO THE SPECIFICATION

The paragraph found on page 2 lines 21-27 of the specification has been replaced with the following paragraph:

The inventive device provides a suction head which may be connected to a vacuum and, in one aspect of the invention, may have one or more suction cups. These suction ports or suction cups are designed so that all of the SC wafers of a runner disk can be gripped and raised simultaneously. The suction head is adapted to be rotated by means of a rotary drive [rive] for an alignment towards the SC wafers lying in a runner disk. The suction head, after being swiveled to a lay-down device, may be adjusted again in a predetermined aligned position towards the lay-down device.

The paragraph beginning on page 6 lines 26 and ending on page 7 line 16 of the specification has been replaced with the following paragraph:

Each runner disk 24 has three reception bores spaced at 120° to receive a semiconductor wafer 26 as is also known as such. Fig. 1 presupposes that each of the five runner disks 24 is loaded with three SC wafers each which have been machined before and are now intended to be gradually unloaded. This is accomplished with the aid of an unloading apparatus which will now be described in detail. A bracket 28 is mounted on the machine frame 20. It carries a motor 30 with a gearbox 32 and a pinion shaft 34. A special bearing 36 having inner teeth constitutes a rotational connection to a lifting unit 38. The lifting unit 38 may be pivoted about a vertical axis by means of the motor 30. It is understood that the pivoting motion may also be substituted for by a linear motion. The lifting unit 38 has a carrier component 40 which holds a motor 42 and has a linear guide 44 for a carriage 46. The carriage 46 is coupled to a motor 42 via a screw drive 48, which is not described or illustrated in detail, in order that a lifting motion at minimal increments may be performed in a freely programmable manner. The carriage 46 holds a swivel arm 50 on which a motor 52' shown in dotted lines is arranged. The swivel arm 50 has rotatably supported at the free end a suction head 52 about a vertical axis 54. In addition, it may be rotationally driven by a motor 52' [52] via a belt 56 which couples a driven wheel of the motor 52' to a wheel on the head 52. As can

*Application No. 09/668,866
Page 12*

Amendment

As seen from Fig. 1 the head 52 has three arms 58 disposed at spacings of 120°. Each arm has two suction cups 60, 61 which lie on the radius of a SC wafer 26 when the axis 54 is aligned towards the center of a runner disk 24 and the arms 58, in turn, are aligned towards the SC wafers 26. As is apparent from Fig. 2 the suction cups 60, 61 are connected to a vacuum source not shown in detail via appropriate lines 62.

The paragraph found on page 7 lines 24-29 of the specification has been replaced with the following paragraph:

An arm 58 of the suction head 52 [20] has a lateral arm 68 on which a sensor 70 is mounted. As is apparent from Fig. 2 it projects downwards like a pin and is situated slightly above the plane of the lower ends of the suction heads 60, 61. The sensor 70 helps in detecting the bore 64 of a runner disk 24 in order that the suction head be moved to a desired rotational position at a place above a runner disk with the arms 58 being appropriately arranged with respect to the SC wafers 26.

The paragraph found on page 8 lines 1-7 of the specification has been replaced with the following paragraph:

A lay-down device 72 is shown on the right-hand side next to the machine frame 10 [20] in Fig. 1. It has a lay-down circular plate 74 which is adapted to be indexed in steps of 120° by means of a rotary drive which is not shown in detail. The circular plate 74 has three segments 76 each of which has a nest 78 to receive an SC wafer. Arranged in each of the nests 78 and lying on a radius are two immersion baths 80 for the suction cups 60, 61 of the suction head 52. More reference thereto will be made farther below. Each sector 76 may be tilted about a horizontal axis by means of a displacing device which is not shown in detail.

The paragraph beginning on page 10 lines 22 and ending on page 11 line 2 of the specification has been replaced with the following paragraph:

In Fig. 4, the bracket which pivotally supports the swivel arm 50 about a vertical axis to make it adjustable in height and which is indicated by 28 in Fig. 2 may be displaced along a linear guide 101 [100] between the machines in a horizontal direction along the double

Application No. 09/668,866
Page 13

Amendment

arrow 102. This purpose is served by an actuator drive which is not shown. Thus, the unloading apparatus 50 may be used in optionally operating the left-hand and the right-hand polishing machine. Fig. 4 depicts the operation of the right-hand polishing machine from the unloading apparatus with the unloading apparatus 50 being shown in dotted lines. Hence, semiconductor wafers may be deposited in the lay-down device 72 from both the one and other machine. It is also possible to transfer the semiconductor wafers from one machine to the other machine if a so-called two-stage process is carried out.